for those receiving therapy when the diagnosis was first made and 32 percent (16 of 50) for those receiving therapy when symptoms were noted.

However, the survival rate of patients with far advanced prostatic carcinoma (stages III and IV), who were seen between 1927 and 1941 and who had had endocrine manipulation after 1941, was 62 percent at five years and 31 percent at ten years. The survival rate was only 23 percent at five years and 0 percent at ten years for patients who had not received endocrine therapy.

Therefore, there is evidence that endocrine therapy for patients with prostatic carcinoma should be given only when symptoms from the extension of the neoplasm develop. Approximately 80 percent of patients will respond to treatment at this time.

Bilateral orchiectomy is usually preferable to DES therapy because of the following: (1) there is no aggravation of cardiovascular disease, (2) there are fewer feminizing changes and (3) treatment is usually more effective and longer lasting. In addition, leaving the epididymis intact when orchiectomy is done causes less psychological trauma than removing the entire contents of the scrotum.

ROGER BARNES, MD
HENRY HADLEY, MD
R. T. BERGMAN, MD

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Abdominal Staging Methods for Study of Testicular Tumors

RECENT ADVANCES in the study of testicular tumors include the discovery of reliable serum markers and the development of effective chemotherapy. These advances are causing renewed interest in nonsurgical staging methods and a reassessment of recommendations for treatment of low-stage, nonseminomatous germ cell testicular tumors. Because nonoperative abdominal staging methods are inadequate, the ability of abdominal ultrasonography (US) and computed tomography (CT) to predict retroperitoneal metastasis was studied in 36 patients with testicular tumors.

CT was completed in 32 patients and US in 21 within a month before surgical removal and pathological examination of retroperitoneal lymph nodes. The pathological diagnosis was correctly predicted by CT in 28 of the 32 patients (87 percent) and by US in 17 of the 21 patients (81 percent). By both modalities, the three false-positive diagnoses were for patients with minimally enlarged nodes and the false-negative diagnosis was for a patient with microscopic tumor. Comparison by pathological staging showed that stage I disease was predicted correctly by CT in 13 of 16 patients (81 percent) and by US in 4 of 6 patients (67 percent). In stage II disease, 12 of 13 cases (92 percent) were correctly predicted by CT and 11 of 12 cases (92 percent) by US. In stage III disease diagnosis by both US and CT was correct in all three patients. The sensitivity (accuracy in detecting tumorous nodes) of both CT and US was 93 percent. However, the specificity (accuracy in detecting tumor-free nodes) was 82 percent by CT and 57 percent by US.

It was concluded that both US and CT are reliable techniques for pretreatment assessment of the status of retroperitoneal lymph nodes in patients with nonseminomatous germ cell testicular tumors. Of the two methods, CT is slightly more accurate, definitely more specific and, when available, is the recommended study. Inasmuch as neither US nor CT is capable of detecting microscopic disease, retroperitoneal lymphadenectomy continues to be the most reliable staging technique.

RICHARD D. WILLIAMS, MD

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Detection of Specific Prostatic Acid Phosphatase

CONVENTIONAL METHODS for the detection of elevated levels of serum acid phosphatase in patients with prostatic cancer have used a variety of enzyme substrates and inhibitors of the prostatic fraction of acid phosphatase. This indirect measurement of the prostatic contribution to acid phosphatase activity is subject to error and variation because of the many isoenzymes of acid phosphatase present in serum.

Newer immunologic techniques have produced antibody to prostatic acid phosphatase (PAP) itself and have made possible more specific, sen-

sitive and stable measurements of this important marker of prostatic cancer.

Now commercially available, the two main methods are a radioimmunoassay (RIA-PAP), which is measured in ng per ml, and a semiquantitative counterimmunoelectrophoresis (CIEP-PAP), measured by the density of precipitate formed on electrophoresis. CIEP-PAP is relatively simple, rapid and inexpensive but suffers greatly from a lack of quantitation in its present form. RIA-PAP, while technically more difficult, time-consuming and expensive, is reproducible and highly quantitative.

Early experience with these two methods has resulted in detection of abnormal levels of specific PAP in up to 50 percent of patients with prostatic cancer confined to the gland (when it is more easily cured and the possibility of surgical removal exists) when using RIA-PAP and 30 percent when using CIEP-PAP. Unfortunately, most cases of prostatic cancer are diagnosed in the advanced stages. At this point, immunologic detection of elevated levels of acid phosphatase reaches 80 percent to 90 percent.

Although rare instances of false-positives have been reported—for example, with carcinoma of the pancreas, these immunologic methods appear specific enough to exclude the prostate as the cause of spurious acid phosphatase elevations when measured by the standard enzymatic methods.

Great enthusiasm accompanied the availability of the RIA-PAP test for the detection of undiagnosed carcinoma of the prostate and, to a limited extent, this has been justified. Its usefulness in massive random screening, however, has not been justified in theory or in practice. Early investigators have indicated that the advantage of using the RIA-PAP measurement lies in its ability (1) to measure the enzyme accurately despite conditions (such as time and temperature) to which the specimen is subjected before it is analyzed (stability) and (2) to establish a normal value for a particular patient, so that elevations in subsequent tests may indicate a pathological condition even though the test results may lie within the normal range (sensitivity).

DANIEL A. NACHTSHEIM, MD

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